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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/887,015	06/25/2001	Yasukazu Hayashi	109920	6678

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EXAMINER

PEREZ, GUILLERMO

ART UNIT	PAPER NUMBER
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2834

DATE MAILED: 11/20/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/887,015

Applicant(s)

HAYASHI, YASUKAZU

Examiner

Guillermo Perez

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 March 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 2 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 08 March 2002 is: a) ☒ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by

Applicant's admitted Prior Art (APA).

APA discloses a reluctance type resolver comprising:

a stator (1), constructed from a magnetic material, having a plurality of excitation teeth (2-9), each of which is wound by an excitation winding (14);

a rotor (11) having magnetic salient sections that are placed to oppose the excitation teeth (2-9); and

a detector for detecting the position of the rotor, by detecting a current or voltage of the excitation winding which changes with different phase in response to motion of the rotor (figure 4); wherein

the excitation winding (14) is wound on each excitation teeth (2-9) so that the magnetic fluxes through all excitation teeth (2-9) have the same direction; and

the stator (1) includes bypass magnetic path teeth (2,6) passing a magnetic flux having a direction opposite to the direction of the excitation teeth (3-5, 7-9).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over
APA in view of Kitazawa (U. S. Pat. 5,757,182).

APA discloses a reluctance type resolver, comprising:

a stator (1), constructed from a magnetic material, having a plurality of excitation teeth (2-9), each of which is wound by an excitation winding (14);

a rotor (11) having magnetic salient sections that are placed to oppose the excitation teeth (2-9); and

a detector for detecting the position of the rotor (11), by detecting a current or voltage of the excitation winding (14) which changes with different phase in response to the motion of the rotor (11); wherein

excitation teeth (2-9) are provided on the stator (1) so that the pitch of each excitation tooth (2-9) for each pair of adjacent excitation teeth (2-9) equals an integral multiple of the pitch of the magnetic salient sections of the rotor (11); and

both excitation teeth (2-9) in each pair of excitation teeth (2 and 6, 3 and 7, 4 and 8, 5 and 9 in page 2, line 22 through page 3, line 2) have the same phase for magnetic resistance change with respect to the motion of the rotor (11).

However, APA does not teach that each of the excitation windings is wound on each of the excitation teeth for a pair of adjacent excitation teeth such that the magnetic flux through each of the paired excitation teeth has directions opposite to each other, and the excitation windings for a pair of excitation teeth are connected in series.

Kitazawa discloses that each of the excitation windings (4) is wound on each of the excitation teeth (3) for a pair of adjacent excitation teeth (3) such that the magnetic flux through each of the paired excitation teeth (3) has directions opposite to each other, and the excitation windings (4) for a pair of excitation teeth (3) are connected in series. Kitazawa's invention has the purpose of eliminating harmonic-frequency components, improving accuracy.

It would have been obvious at the time the invention was made to modify the resolver of APA and provide it with the winding configuration disclosed by Kitazawa for the purpose of eliminating harmonic-frequency components, improving accuracy.

Response to Arguments

Applicant's arguments filed March 8, 2002 have been fully considered but they are not persuasive.

In response to Applicant's remark that APA fails to disclose "*a reluctance type resolver comprising a stator having a plurality of excitation teeth, each of which is wound by an excitation winding so that the magnetic fluxes through all excitation teeth have the same direction and the stator includes bypass magnetic path teeth passing a magnetic flux having a direction opposite to the direction of the excitation teeth*", it must be noted that those elements are shown in APA as described in the rejection above.

The windings in APA are wound around every tooth, therefore each tooth in APA is wound by an excitation winding, as claimed.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "*does not have winding around the bypass magnetic pass teeth*") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

In response to Applicant's remark that APA and Kitazawa fail to disclose "*a reluctance type resolver, comprising a stator, having a plurality of excitation teeth, each of which is wound by an excitation winding, a rotor having magnetic salient sections that are placed to oppose said excitation teeth, and a detector for detecting the position of said rotor, by detecting a current or voltage of the excitation winding which changes with different phase in response to the motion of said rotor, wherein each of said excitation windings is wound on each of the excitation teeth for a pair of adjacent excitation teeth such that the magnetic flux through each of the paired excitation teeth has directions opposite to each other, the excitation windings for a pair of excitation teeth are connected in series and excitation teeth are provided on the stator so that the pitch of each excitation tooth for each pair of adjacent excitation teeth equals an integral multiple of the pitch of the magnetic salient sections of the rotor and both excitation teeth in each pair of excitation teeth have the same phase for magnetic resistance*"

change with respect to the motion of the rotor", it must be noted that those elements are shown in APA and Kitazawa as described in the rejection above.

APA discloses that both excitation teeth (2 and 6) in each pair (2 and 6) of excitation teeth (2 and 6, 3 and 7, 4 and 8, 5 and 9 in page 2, line 22 through page 3, line 2) have the same phase for magnetic resistance change with respect to the motion of the rotor. It must also be noted that the claims recite that "both excitation teeth in each pair of excitation teeth have the same phase for magnetic resistance change with respect to the motion of the rotor". No relation has been claimed between a pair of adjacent excitation teeth and the same phase for magnetic resistance change. Only a relation between each pair of excitation teeth and the same phase for magnetic resistance change has been claimed.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Guillermo Perez whose telephone number is (703) 306-5443. The examiner can normally be reached on Monday through Thursday and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308 1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305 3432 for regular communications and (703) 305 3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308 0956.

Guillermo Perez
November 15, 2002


THOMAS M. DOUGHERTY
PRIMARY EXAMINER
GROUP 2100
2600